

Claims

What is claimed is:

- 5 1. An integrated double-sided organic light-emitting display panel comprising:
 a substrate;
 a main-panel installed on the substrate for generating a main image light
 substantially progressing along a first displaying direction;
 a sub-panel installed on the substrate for generating a sub image light substantially
10 progressing along a second displaying direction; and
 a control module electrically connected with the main-panel and the sub-panel for
 controlling operations of the main-panel and the sub-panel;
 wherein the first displaying direction is mutually reversed to the second displaying
 direction in free space.
- 15 2. The integrated double-sided organic light-emitting display panel of claim 1 being
 an Organic Light Emitting Diode (OLED) display panel or a PLED display panel.
- 20 3. The integrated double-sided organic light-emitting display panel of claim 1 wherein
 the main-panel comprises an upper substrate, a bottom substrate, and a
 main organic light emitting layer therebetween, and the sub-panel
 comprises an upper substrate, a bottom substrate, and a sub organic
 light emitting layer therebetween.
- 25 4. The integrated double-sided organic light-emitting display panel of claim 3 wherein
 the upper substrate and the bottom substrate are metal substrates.
- 30 5. The integrated double-sided organic light-emitting display panel of claim 3 wherein
 a first bias voltage is applied on the main-panel and a second bias voltage is applied
 on the sub-panel by using the control module, such that the main image light
 generated by the main organic light emitting layer is progressing along
 the first displaying direction and the sub image light generated by the sub

organic light emitting layer is progressing along the second displaying direction.

- 5 6. The integrated double-sided organic light-emitting display panel of claim 5 wherein the first bias voltage is a reversed bias relative to the second bias voltage.
- 10 7. The integrated double-sided organic light-emitting display panel of claim 5 wherein the main organic light emitting layer and the sub organic light emitting layer each comprise a hole injection layer (HIL), a hole transport layer (HTL), an emitting layer (EML), an electron injection layer (EIL), and an electron transport layer (ETL).
- 15 8. The integrated double-sided organic light-emitting display panel of claim 1 wherein the substrate is a glass substrate or a plastic substrate.
9. The integrated double-sided organic light-emitting display panel of claim 1 being used in a mobile phone, a PDA, or other portable devices.
- 20 10. An integrated double-sided organic light-emitting display panel comprising:
a substrate;
a plurality of displaying modules installed on the substrate for generating a corresponding plurality of image light, each displaying module comprising:
a top electrode;
a bottom electrode; and
25 an organic light emitting layer installed between the top electrode and the bottom electrode for generating a corresponding image light; and
a control module for controlling operations of the plurality of displaying module.
- 30 11. The integrated double-sided organic light-emitting display panel of claim 10 wherein if the bottom electrode of each displaying module is served as an anode of the displaying module, the image light substantially progresses along a first

displaying direction which is from the organic light emitting layer toward the bottom electrode; and if the bottom electrode of each displaying module is served as a cathode of the displaying module, the image light substantially progresses along a second displaying direction which is from the organic light emitting layer toward the top electrode.

12. The integrated double-sided organic light-emitting display panel of claim 11 wherein for each displaying module, the first displaying direction is mutually reversed to the second displaying direction in free space.

13. The integrated double-sided organic light-emitting display panel of claim 11 wherein for each displaying module, when a first bias voltage is applied on the displaying module, of which the bottom electrode is an anode, the image light substantially progresses along a first displaying direction which is from the organic light emitting layer toward the bottom electrode; and when a second bias voltage is applied on the displaying module, of which the bottom electrode is a cathode, the image light substantially progresses along a second displaying direction which is from the organic light emitting layer toward the top electrode.

14. The integrated double-sided organic light-emitting display panel of claim 13 wherein the first bias voltage is a reversed bias relative to the second bias voltage.

15. The integrated double-sided organic light-emitting display panel of claim 10 being an Organic Light Emitting Diode (OLED) display panel or a PLED display panel.

16. The integrated double-sided organic light-emitting display panel of claim 10 wherein the organic light emitting layer comprises a hole injection layer (HIL), a hole transport layer (HTL), an emitting layer (EML), an electron injection layer (EIL), and an electron transport layer (ETL).

17. The integrated double-sided organic light-emitting display panel of claim 10 being

used in a mobile phone, a PDA, or other portable devices.